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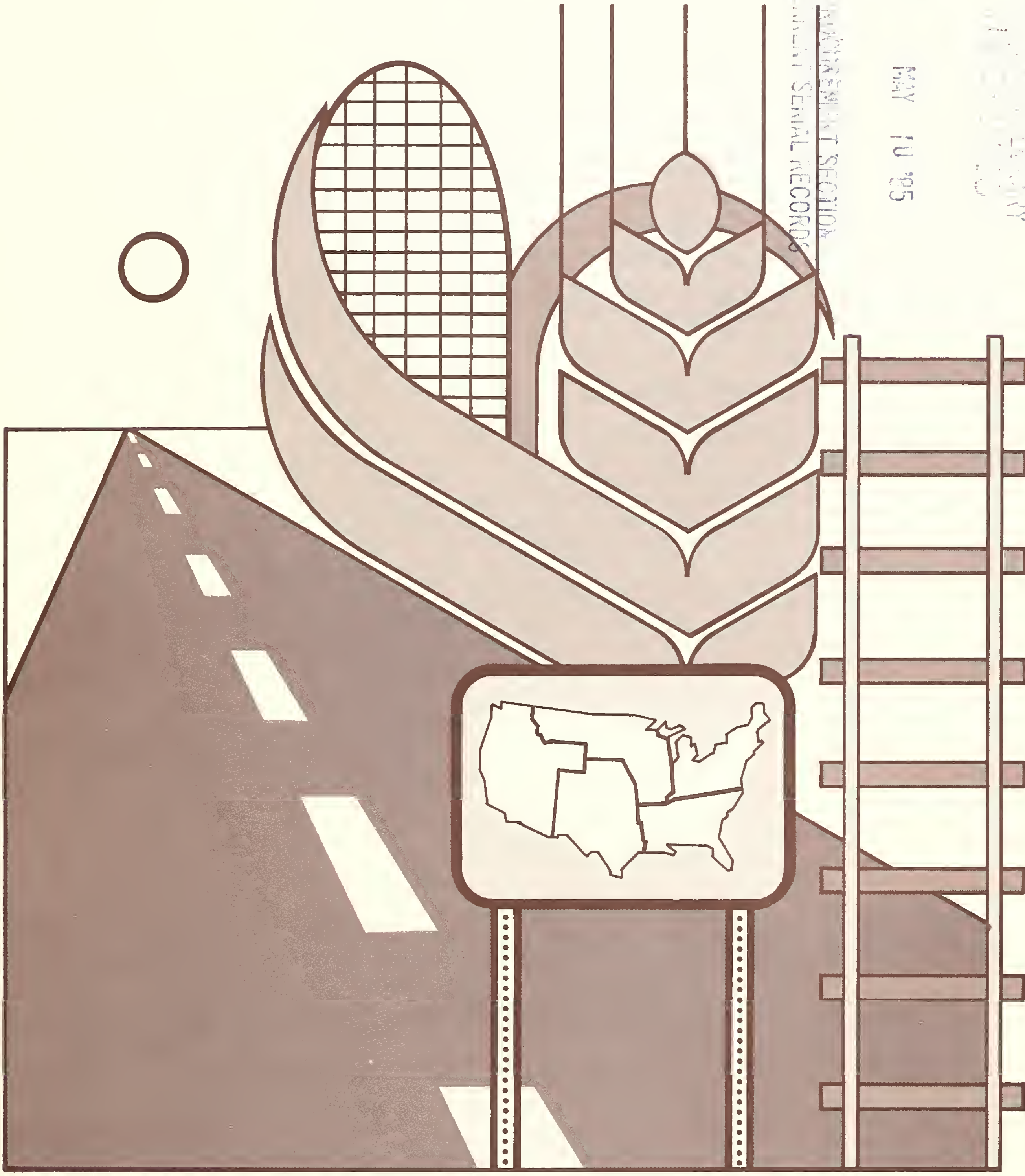
Marketing and Transportation of Grain By Local Cooperatives



Abstract

Marketing and Transportation of Grain By Local Cooperatives
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A total of 2,060 local cooperative associations handled 4.7 billion bushels of grain during the 1982-83 marketing year. This is about 41 percent of all grain sold off-farm during the year. Cooperative grain storage capacity totaled 2.5 billion bushels. Corn, at 1.5 billion bushels, ranked as the leading grain marketed; wheat was second at slightly under 1.0 billion. More than half of the grain sold by local cooperatives moved by truck.

Key words: cooperatives, grain handling, grain elevator, grain bank, grain transportation.

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Preface

This study addresses only cooperative first-handlers of grain for the fiscal year ending June 1983. It is comparable with a study previously conducted by Agricultural Cooperative Service covering the 1979-80 period and released as ACS Research Report Number 35. (Tables from ACS Research Report 35 are included in appendix B of this report.) The statistics are expanded data based on a sample survey of the cooperatives defined below. The term cooperative used in this study refers to local cooperative associations that handled grain and the first-handler operations of regional cooperatives that operate line elevators. The Nation was divided into five regions for this study.

The author expresses sincere appreciation to the many participants who made this report possible. More than 1,000 cooperative managers supplied data and more than 25 managers furnished information in followup research on specific problems. Without these data, the publication could not have been developed. The special survey group of the Statistical Reporting Service worked tirelessly to prepare automated data procedures and output. Their efforts allowed the quick turnaround of the study that otherwise would have been impossible.

Contents

Highlights

Local grain-handling cooperative associations handled an average 2.3 million bushels per association in the 1982-83 marketing year. That amount included grain handled through the grain bank and Commodity Credit Corporation programs.

Storage capacity per cooperative association averaged 1.2 million bushels. Taking the number of locations into account (1.9 per association), average storage capacity per location was about 634,000 bushels.

About 94 percent of grain handling cooperatives were licensed by Federal and/or State agencies. Most had State licenses but about 12 percent had both Federal and State licenses.

About 40 percent of grain sold by cooperatives was corn. Wheat accounted for about 25 percent while soybeans and sorghum combined amounted to about 27 percent. Other grains made up the balance.

The average annual turnover rate (rate of grain volume to storage capacity), including grain bank and CCC, was 1.9.

Excluding grain handled through grain bank and CCC programs, 11 percent was sold locally, 50 percent went to other cooperatives, and 39 percent went to other grain dealers.

Local cooperatives transported more than 55 percent of their grain by truck, 42 percent by rail, and 3 percent by barge or other conveyance. About 80 percent of cooperative-owned storage was on a rail line. Railcar units of 2 to 24 cars were the most common, making up about 48 percent of all grain shipped by that conveyance. Single car and 25- to 49-car units accounted for 17 and 16 percent of rail shipments, respectively. About 13 percent of all first-handler grain cooperatives are capable of loading 25 or larger car units.

Rail service abandonment continues to plague rural grain shippers. In the past 3 years, about 10 percent of locally owned cooperative elevators lost rail service.

Of those cooperatives reporting problems, financial management was the most often mentioned, followed by transportation and member relations. The order of rankings varied widely among the regions.

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U.S grain producers furnished a major portion of all grains moving in international trade as well as practically all the Nation's domestic needs. Marketing this huge store requires extensive and flexible storage and transportation systems. Harvesting of these grains during short seasonal periods generates a need for substantial storage in production areas and for orderly marketing throughout the year. Local farmer-owned cooperatives are major assemblers and storers of grain in the Nation.

PROFILE OF LOCAL GRAIN-HANDLING COOPERATIVES

Membership of Local Cooperatives

Membership in the estimated 2,060 grain-handling cooperatives totaled 1.9 million producers, an average of 906 members per association. This represents a drop of 26 percent in total membership since 1979 and a drop in the average membership per association of 16 percent. There is substantial evidence of consolidation of local cooperatives during the past 3 years, which has reduced some duplicate memberships. However, there is still evidence of considerable duplicate membership reflected by the fact that the total number of farms in the United States is about 2.2 million,[1] many of which do not produce grain. Regions I and II had the largest average membership, 1,682 and 1,839, respectively. Membership averaged significantly smaller in regions III, IV, and V (fig. 1). Grain producers accounted for 66 percent of the memberships in all associations but varied from 52 percent in region I to 75 percent in region V (table 1).

Licensed Local Grain Storage Capacity

About 94 percent of the cooperatives that operated storage facilities were

Figure 1—Designated reporting regions

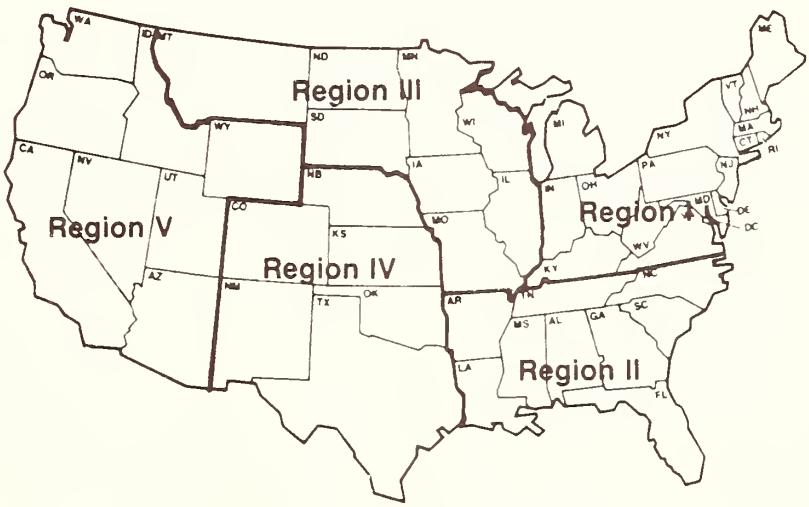

Table 1—Membership of local grain-handling cooperative associations, by region, 1982-83

Region	Total associations	Members: Grain producers	Members: All other	Members: Total
		Number		
I	252	221,455	202,656	424,111
II	71	76,210	54,381	130,591
III	1,097	568,753	210,736	779,489
IV	568	326,585	149,493	476,078
V	72	42,800	14,173	56,973
All regions, 1982-83	2,060	1,235,803	631,439	1,867,242
All regions, 1979-80	2,339	1,481,771	1,043,597	2,525,368

[1] Source: Preliminary Report, 1982 Census of Agriculture, Bureau of the Census.

licensed to operate grain marketing and storage operations. Of those licensed about 63 percent had only State licenses while 25 percent had only Federal licenses. Another 12 percent had both Federal and State licenses.

About 98 percent of the local associations in region IV and about 97 percent in region III had licenses. Region II was dramatically lower with about two-thirds of the associations licensed (table 2).

Compared with the 1979-80 period, the types of license held by cooperatives showed no significant change while the number of those cooperatives that were licensed increased about 5 percent.

Type of Storage Capacity

The upright elevator, a grain storage facility with greater height than width, was by far the most popular type of facility, making up about 81 percent of all storage capacity. Gravity flow for loadout and ease of movement to maintain quality were among the reasons for preferring this type of facility. Region I, at 94 percent, had the highest proportion of upright storage while region III had 83 percent and the others 80 percent (table 3).

Nearly all associations reported having some flat storage but it generally represented a small percentage of total storage capacity. Nationally, about 19 percent of all storage is flat. Cooperatives in regions II, III, and IV each indicated that about 20 percent of their total storage was flat, while associations in region V and VI reported about 17 percent and 6 percent, respectively.

Storage Capacity

Nationally, local cooperative associations indicated a 22-percent increase in average storage capacity per association and a 10-percent increase on a location basis from 1980 to 1983. This means cooperative consolidation was responsible for more of the increase than new construction.

Table 2—Cooperative associations with licensed grain storage warehouses, by type of license and region, 1982-83

Region	Cooperative associations with licensed grain storage warehouses	Type of license: Federal	State	Federal and State	No license
		Number			
I	205	29	116	60	47
II	47	11	26	10	24
III	1,062	235	698	129	35
IV	558	192	340	26	10
V	65	19	40	6	7
All regions, 1982-83	1,937	486	1,220	231	123
All regions, 1979-80	2,079	497	1,329	253	260

Table 3—Capacity of local cooperative associations, by storage type and region, 1982-83

Region	Total storage	Upright	Flat
	1,000 bushels	*Percent*	
I	247,218	94	6
II	116,725	80	20
III	1,116,092	80	20
IV	862,880	79	21
V	172,015	83	17
All regions, 1982-83	2,514,930	81 (avg.)	19 (avg.)
All regions, 1979-80	2,334,743	81 (avg.)	19 (avg.)

Table 4—Local grain-handling cooperatives: Number, average locations per association, and storage capacity, by region, 1982-83

Region	Association	Average locations per association	Average storage capacity per association	Average storage capacity per location
	Number		*1,000 bushels*	
I	252	2.2	981	453
II	71	2.9	1,649	562
III	1,097	1.7	1,018	594
IV	568	1.8	1,519	837
V	72	4.2	2,389	568
All regions, 1982-83	2,060	1.9	1,221 (avg.)	634 (avg.)
All regions, 1979-80	2,339	1.7	998 (avg.)	574 (avg.)

Table 5—Grain volume handled per association and location, and turnover ratio, by region, 1982-83

Region	Grain volume handled[1] Total	Average per association	Average per location	Turnover ratio
	-1,000 bushels-			
I	565,852	2,245	1,021	2.3
II	211,609	2,980	1,017	1.8
III	2,440,447	2,225	1,299	2.2
IV	1,294,500	2,279	1,256	1.5
V	184,006	2,556	607	1.0
All regions, 1982-83	4,696,414	2,270 (avg.)	1,184 (avg.)	1.9
All regions, 1979-80	4,578,081	1,957 (avg.)	1,125 (avg.)	2.0

[1]Includes grain bank and CCC grain.

Table 6—Distribution of grains handled by local cooperative associations by region, 1982-83

Grain	Region I	II	III	IV	V	Total
			-Percent-			
Corn	21	2	66	11	([1])	100
Wheat	5	4	37	44	10	100
Soybeans	18	15	60	7	0	100
Sorghum	([1])	13	9	78	0	100
Oats	12	1	78	7	2	100
Barley	2	1	68	1	28	100
Rye	([1])	0	100	0	0	100
Flax	0	0	100	0	0	100
Sunflower	0	0	100	([1])	0	100
Buckwheat	14	0	86	([1])	([1])	100
Millet	0	0	71	29	([1])	100
Mustard	0	0	100	0	0	100
Triticale	0	0	25	75	0	100
Safflower	0	0	0	0	100	100
All grains, 1982-83	13	5	54	24	4	100
All grains, 1979-80	12	8	52	22	6	100

[1]Less than 0.5 percent.

In 1982-83, local associations had an estimated 2.5 billion bushels of storage capacity, about 7 percent more than in 1979-80. This represented about 31 percent of total off-farm storage in the United States (table 3).

By cooperative, capacity averaged about 1.2 million but varied significantly among regions (table 4). Associations in region V had the largest average storage capacity with 2.4 million bushels. The other four regions ranged from 1.0 million bushels to 1.6 million.

Average storage capacity per elevator location ranged from 453,000 bushels in region I to 837,000 in region IV. The other regions ranged from 562,000 to 594,000 bushels per location. The average for the country was 634,000 bushels per location. As shown in table 4, associations in region V had 4.2 locations per association. Region II had 2.9 locations per association. Region I had 2.2; region IV, 1.8; and region III, 1.7. On a national basis, there were 1.9 locations per cooperative assn. (table 4).

Utilization of facilities went down slightly during the past 3 years. In 1979-80 the turnover rate was 2 times per year and in 1982-83 the rate declined to 1.9 times per year. The turnover rate varies widely on a regional basis with region I having the highest at 2.3 times while region V had the lowest at 1.0 times per year (table 5).

GRAIN VOLUME

The 2,060 local grain handling cooperatives handled 4.7 billion bushels during the 1982-83 marketing year. This included grains handled through grain banks, the CCC, and regular marketing channels. The volume of grain handled by an individual association ranged from an average of 2.2 million in regions I and III to 2.9 million in region II; nationally the average was 2.3 million bushels per association (table 5).

Local associations handled an estimated 41 percent of off-farm sales of the 1982-83 crop grain in the United States.

Table 7—Total and average grain volume marketed per association and location, by region, 1982-83

Region	Grain volume marketed[1] Total	Average per association	Average per location
		1,000 bushels	
I	511,315	2,029	937
II	210,637	2,967	1,014
III	2,104,188	1,919	1,120
IV	941,651	1,657	913
V	153,177	2,127	506
All regions, 1982-83	3,920,968	1,904	989
All regions, 1979-80	4,578,081	1,957	1,124

[1]Does not include grain handled in grain bank and CCC programs.

Table 8—Specified volumes of grain marketed through regular channels by local cooperative associations, 1982-83

Grain	Regular market	
	1,000 bushels	*Percent*
Corn	1,554,819	39
Wheat	962,468	25
Soybeans	669,204	17
Grain Sorghum	375,792	10
Oats	93,527	2
Barley	183,113	5
Rye	6,397	([1])
Flax	8,497	([1])
Sunflower	63,933	2
Buckwheat	289	([1])
Millet	2,706	([1])
Mustard	34	([1])
Rape	6	([1])
Triticale	4	([1])
Safflower	179	([1])
Total	3,920,968	100

[1]Less than 0.5 percent.

Region III was the major assembler of grain, originating about 54 percent of all grains marketed by local cooperatives; region IV followed with about 24 percent of total grains. Both regions showed a 2-percent increase over the 1979-80 period. Region I handled about 13 percent of grain origination, while regions II and V originated 5 and 4 percent, respectively. Cooperatives in region III were the major originators of all the major types of grains except wheat and sorghum (table 6 and 7).

Corn accounted for about 39 percent of grain marketed through regular marketing channels by local cooperative associations. Wheat was second with about 25 percent, followed by soybeans at about 17 percent, and sorghum at about 10 percent of total marketings. A long list of grain crops made up the remaining 8 percent (table 8).

CCC program activity increased sharply from the 1979-80 marketing period—more than four times the previous amount. This program activity represented about 10 percent of all grain handled by local cooperatives. The principle grain was corn, which made up about 50 percent of the crop handled through this program. Wheat was second at 24 percent, and grain sorghum showed a substantial increase, making up 21 percent of total CCC program activity. Cooperatives in region IV handled about 48 percent of CCC grain, followed by region III at 44 percent (tables 9 and 10).

About 6 percent of the total volume handled by local associations came from

Table 9—Specified volumes of grain handled by local cooperative associations, by type of grain, 1982-83

Grain	Regular market	Grain bank	CCC
		1,000 bushels	
Corn	1,554,819	145,594	237,987
Wheat	962,468	56,406	127,233
Soybeans	669,204	13,192	11,325
Grain sorghum	375,792	43,480	104,667
Oats	93,527	10,931	482
Barley	183,113	14,000	9,965
Rye	6,397	0	0
Flax	8,497	0	0
Sunflower	63,933	0	0
Other grains[1]	3,218	0	0
Total	3,920,968	283,603	491,659

[1]Includes buckwheat, millet, mustard, rape, triticale, and safflower.

the grain bank. About 51 percent was corn. Regions III and IV were the largest participants, handling 42 and 41 percent, respectively, of the total.

Disposition of Grain Sales

Local cooperatives assemble grain supplies in the initial stop through the marketing channels. Of the grain volume marketed by local cooperatives, 50 percent was sold to other cooperatives (table 11). A major portion of this was to cooperatively owned subterminals, terminals, and processing plants. Minor amounts were sold to other local cooperatives or as internal transfer to be used in feed manufacturing. Thirty-nine percent was sold to noncooperative firms, while 11 percent was sold locally or to truckers.

Local cooperatives in regions III and IV marketed more than 50 percent of their grain through other cooperatives; in region I, the figure was 49 percent. In region II, reflective of the predominant centralized systems, only 27 percent moved to other cooperatives in the 1982-83 period.

The proportion of each grain sold to various outlets varied greatly. About 52 percent of the oats marketed by cooperatives was sold either locally or to truckers while small amounts of oilseeds and bread grains were sold locally and a fairly larger amount remained in cooperative marketing channels (appendix table 3).

Mode of Grain Transportation

In 1982-83, local cooperative elevators in the United States utilized trucks to transport 55 percent of their grain sold. This is an increase of about 2 percent since 1979-80 (table 12). Because about 11 percent of the grain marketings were local or to truckers, cooperative elevators moved about 44 percent of their grain to market by truck. On a regional basis, truck usage was about 64 percent in region I and 28 percent in region V (table 12).

Table 10—Grain bank and CCC grain handled by local cooperative associations, by region, 1982-83

Region	Grain bank grain		CCC grain	
	Volume	Distribution of volume	Volume	Distribution of volume
	1,000 bu.	*Percent*	*1,000 bu.*	*Percent*
I	26,175	9	28,363	6
II	0	0	973	([1])
III	119,335	42	216,769	44
IV	116,613	41	236,204	48
V	21,480	8	9,350	2
All regions, 1982-83	283,603	100	491,659	100
All regions, 1979-80	115,325	-	112,187	-

[1]Less than 0.5 percent.

Table 11—Distribution by market outlet of grain sold by local cooperative associations, 1982-83 and 1979-80

Region	Grain sold: Locally 1982-83	Locally 1979-80	To cooperative 1982-83	To cooperative 1979-80	To noncooperative 1982-83	To noncooperative 1979-80
	Percent					
I	4	6	49	55	47	39
II	4	2	27	71	69	27
III	11	10	53	56	36	34
IV	18	14	51	66	31	20
V	3	2	37	50	60	48
All regions	11	9	50	60	39	31

Table 12—Distribution of grain marketed by local cooperative associations, by mode of transportation and region, 1982-83 and 1979-80

Region	Mode of transportation: Truck 1982-83	Truck 1979-80	Rail 1982-83	Rail 1979-80	Other 1982-83	Other 1979-80
	Percent					
I	64	74	32	24	4	2
II	44	34	38	53	18	13
III	55	56	44	44	1	([1])
IV	57	52	43	48	([1])	([1])
V	28	21	52	39	20	40
All regions	55	53	42	43	3	4

Table 13—Distribution of grain marketed by local cooperative associations, by mode of transportation and type of grain, 1982-83 and 1979-80

Type	Mode of transportation: Truck 1982-83	Truck 1979-80	Rail 1982-83	Rail 1979-80	Other 1982-83	Other 1979-80
	Percent					
Corn	58	57	41	43	1	([1])
Wheat	37	37	59	57	4	6
Soybeans	68	66	26	28	6	6
Sorghum	77	68	22	32	1	([1])
Oats	70	70	30	30	([1])	([1])
Barley	29	32	68	66	3	2
Rye	35	71	65	29	0	([1])
Flax	51	89	49	11	0	0
Sunflower	44	73	56	27	0	0
Buckwheat	63	100	37	0	0	0
Millet	61	73	39	27	0	0
Mustard	100	100	0	0	0	0
Rape	100	100	0	0	0	0
Triticale	100	82	0	18	0	0
Safflower	0	5	100	95	0	0
All grains	55	53	42	43	3	4

[1]Less than 0.5 percent.

The grain was handled by a wide variety of conveyances. For example, trucks hauled about 77 percent of the sorghum but only about 37 percent of the wheat (table 13). Growth of subterminal markets along rail lines and at river shipping locations has made it attractive for local cooperatives to ship by truck. Also affecting the use of trucks has been the abandonment of railroads at many country elevators. (Railroad abandonment will be discussed in detail later in this report.)

Railroads shipped about 42 percent of grain from local cooperative elevators. This represents a decrease of about 1 percent in the past 3 years. On a percentage basis, region V was the largest user of railroads, shipping about 52 percent by rail; however, on a volume basis region III was the largest user, accounting for about 56 percent of all rail shipments. On a commodity basis, corn was the largest user with about 38 percent, followed by wheat at 34 percent.

The Burlington Northern (BN) railroad served by far the largest number of local

Table 14—Storage capacity on major railroads serving local cooperatives, by region, 1982-83

Railroad	Total	Region: I	II	III	IV	V
	1,000 bushels					
Burlington Northern	448,150	—	—	201,666	185,106	61,378
Chicago Northwestern	269,489	—	—	257,839	11,650	—
Atchinson, Topeka & Santa Fe	173,930	—	—	4,931	168,999	—
Union Pacific*	172,731	—	—	5,347	121,648	45,736
Missouri Pacific*	113,372	—	27,769	10,963	74,640	—
Illinois Central Gulf	112,198	256	1,526	110,416	—	—
Santa Fe	70,709	—	—	13,138	57,571	—
Norfolk Western	65,792	29,152	—	36,640	—	—
Milwaukee	59,880	179	—	59,701	—	—
Conrail	58,619	54,924	—	3,695	—	—
Norfolk-Southern	43,060	20,855	6,983	15,222	—	—
CSX System	35,569	27,149	8,420	—	—	—
Iowa Northern	28,640	—	—	28,640	—	—
Oklahoma, Kansas, Texas	26,809	—	—	—	26,809	—
Cotton Belt	25,163	—	23,218	—	1,945	—

*Merged to form Union Pacific systems in 1982.

elevators. The Burlington Northern has about 20 percent of the total storage capacity on railroad lines. The Chicago Northwestern was next with around 12 percent, followed by Atchison, Topeka, and Santa Fe and Union Pacific with about 9 percent each and the Missouri Pacific with about 6 percent. The merger of the Union Pacific and Missouri Pacific would give it about 14 percent of storage on rail lines (table 14).

Region III was the largest user of rail service followed by region IV.

Other types of shipments, such as barge, accounted for only 3 percent of grain shipments from local cooperatives.

Railcars per Shipment

The number of railcars per shipment has changed significantly since 1979-80 with fewer single car shipments and more 2- to 24-car units. For the 1982-83 marketing year, 2- to 24-car units were utilized to ship 48 percent of the grain, compared with 29 percent in 1979-80. Single car shipments dropped to about 17 percent from 41 percent in 1979-80. Other car size units showed minor changes during the 3-year period (table 15).

In region III, the largest rail shipper, 40 percent of the grain was shipped in 2- to 24-car units. Shippers in region IV, a heavy single car shipper in 1979-80, changed significantly to the use of 2- to 24-car units. Region I was the principal user of units of more than 100 cars (table 15 and 16).

Unit Train Loading Facilities

Thirteen percent of local elevators had sidings that enabled them to load rail car units of 25 or more. Average storage capacity at these elevators was 1.3 million bushels. Sixty-two percent of the locations were in region III and 27 percent in region IV (table 17).

Railroad Abandonment

Railroads have historically been the prime movers of grain through the

Table 15—Percentage distribution of rail shipments by local cooperative associations, by number of railcars per shipment, by region, 1982-83

Region	Volume	Number of cars in rail shipment					
		Single	2-24	25-49	50-74	75-99	100 plus
	1,000 bu.	*Percent*					
I	162,616	5	55	1	13	4	22
II	81,039	8	92	0	0	0	0
III	934,027	17	40	23	12	6	2
IV	403,930	19	56	8	13	3	1
V	80,157	38	35	27	0	0	0
All regions							
1982-83	1,661,769	17	48	16	11	5	3
1979-80	1,866,907	41	29	11	7	8	4

Table 16—Percentage distribution of volumes of selected major grains shipped by rail by local cooperative associations, by number of railcars per shipment, 1982-83

Number of cars	Type of grain					
	Corn	Wheat	Soybeans	Grain sorghum	Oats	Barley
	Percent					
Single	9	21	14	26	24	30
2-24	38	60	44	52	42	40
25-49	24	10	20	14	8	11
50-74	14	7	7	6	26	19
75-99	8	1	11	2	0	0
Over 100	7	1	4	0	0	0
	100	100	100	100	100	100

Table 17—Local cooperative elevator locations capable of loading 25 or more car units and storage capacity at those locations, by region, 1982-83

Region	Locations	Storage capacity	
		Total	Average
	Number	*1,000 bushels*	
I	25	56,113	2,245
II	0	0	0
III	326	377,660	1,158
IV	144	211,786	1,471
V	33	39,407	1,194
All regions	528	684,968	1,297

marketing channels. Railroad abandonment has taken this alternative away from many locations. During the past 3 years, about 10 percent of local cooperatives have lost their rail service. Average storage capacity at these locations was slightly more than half a million bushels (table 18). Of the total number of locations on abandonment lines, about 56 percent were located in region III. This was about 12 percent of the elevator locations in the region. Region II had 3 percent abandonment, the smallest loss; abandonments in regions I, IV, and V ranged from 8 to 10 percent.

Scheduled rail abandonment was not as great in 1982-83 as it was in 1979-80, with about 3 percent of the storage capacity nationally located on lines scheduled for abandonment in the next 3 years. Easing of notification requirements prior to abandonment, along with closure of many of the feeder lines in the last few years, is a principal reason for a reduction in scheduled abandonments (table 19).

PROBLEMS FACING COOPERATIVES

Cooperative managers perceived problems quite differently and variances were noted between the regions. However, one problem, financial management, was mentioned most often in three of the regions. There were 2,063 responses by management to this survey question.

Financial Management

Financial management was the most often mentioned problem, making up 18 percent of the responses (table 20). This problem was was mentioned most frequently in regions I, II, and III, and ranked second and third in regions V and IV, respectively. Within this broad category several more specific problems were mentioned. Maintaining acceptable accounts receivable levels was the primary concern of about 55 percent of the responses. Other specific problems mentioned were equity redemption

Table 18—Storage capacity at local cooperative elevator locations where rail service has been discontinued in last 3 years, by region, 1982-83

Region	Locations	Storage capacity	
		Total	Average
	Number	*1,000 bushels*	
I	55	17,148	312
II	6	1,212	202
III	226	135,286	599
IV	87	55,368	636
V	32	13,367	418
All regions	406	222,381	548

Table 19—Storage capacity of cooperatives on rail lines not scheduled for abandonment, on rail lines scheduled for abandonment, and not on rail lines, by region, 1982-83

Region	Not scheduled for abandonment	Scheduled for abandonment	Not on rail line
		1,000 bushels	
I	176,774	27,158	43,286
II	84,114	6,688	25,923
III	804,871	24,782	286,439
IV	745,542	4,088	113,250
V	124,568	4,650	42,797
All regions	1,935,869	67,366	511,695
		Percent	
Percentage of total storage	77	3	20

Table 20—Problems facing local grain cooperative association, by region, 1982-83

Problem category	Region					All Regions
	I	II	III	IV	V	
			Percent			
Financial management	24	18	19	12	12	18
Transportation	6	16	18	21	12	17
Members	20	9	10	13	6	12
Government	12	14	11	6	21	10
Direct marketing	4	0	6	13	1	7
Competition	8	14	7	5	10	7
Inflation	5	0	8	5	2	6
Depressed prices	2	16	7	5	7	6
Prices	3	2	3	6	2	4
Others	16	11	11	14	27	13
Total	100	100	100	100	100	100

programs, retaining earnings, bad debts, investments in other cooperatives, lack of working capital, and maintaining the cost-margin ratio.

Transportation

Though not as dominant as 3 years ago, transportation still looms as a major problem to local cooperatives. The specific problems have changed from the previous study when managers indicated lack of transportation as a problem. Today the major problems were centered on deregulation of railroads, contract freight rates, and abandonment of feeder lines. Nationally transportation was the number two problem mentioned. It ranked first in region IV, second in regions II, III, and V, and fifth in region I.

Members

Moving from a low incidence of response in 1979-80 to the number three position in 1982-83 was member-relation problems. Within this broad category, member loyalty and lack of support were the most often mentioned specific problems. Another problem mentioned was that large farmers did not use the cooperative structure. In followup, it was found that the paper refund policy caused tax problems and discouraged some farmers from being members of marketing cooperatives. Also frequently mentioned was lack of understanding of cooperative principles by members and patrons. Several solutions to these problems were mentioned, all of which need further study.

Direct Marketing

Direct marketing by members is becoming more prevalent as farm size increases and as producers become more specialized in certain agricultural endeavors. Many producers today have onfarm drying and storage facilities to handle crops, which reduces the need to sell grain during the harvest season. Direct marketing is prevalent in areas near major processing centers or near river loading points where farmers with large trucks can bypass the local elevators. Also impacting on direct marketing decisions is the number of subterminal facilities being built throughout the producing area.

Follow up was conducted in an area where direct marketing was prominent. Following are some examples of strategies used by cooperatives to counteract this problem:

-Offered multiple pricing systems dependent upon price risk to the cooperative.

-Increased efficiency of operations through merger.

-Built unit train facility.

-Increased feed sales and sold all grains locally.

-Did nothing.

Further study on this problem area is needed.

Appendix A

Appendix table 1—Volumes of specific grain handled by local cooperative associations, by region, 1982-83

Grain	Region					
	I	II	III	IV	V	Total
	1,000 bushels					
Corn	329,696	25,023	1,027,815	170,246	2,039	1,554,819
Wheat	45,506	35,578	364,839	419,153	97,392	962,468
Soybeans	120,837	99,088	398,589	50,690	0	669,204
Sorghum	364	49,452	33,740	292,236	0	375,792
Oats	11,377	1,291	72,973	6,211	1,675	93,527
Barley	3,462	205	125,474	2,132	51,840	183,113
Rye	33	0	6,360	4	0	6,397
Flax	0	0	8,497	0	0	8,497
Sunflower	0	0	63,705	182	46	63,933
Buckwheat	40	0	249	0	0	289
Millet	0	0	1,912	794	0	2,706
Mustard	0	0	34	0	0	34
Rape	0	0	0	0	6	6
Triticale	0	0	1	3	0	4
Safflower	0	0	0	0	179	179

Appendix Table 2—Volume of grain sold by local cooperative associations by market outlet and region, 1982-83

Region	Sold locally	Sold to cooperatives	Sold to noncooperatives
	1,000 bushels		
I	22,137	251,175	238,003
II	9,486	55,563	145,588
III	229,492	1,123,293	751,403
IV	169,162	475,650	296,839
V	4,144	56,237	92,796
All regions	434,421	1,961,918	1,524,629

Appendix table 3—Distribution of grains sold by local cooperative association, by market outlet, 1982-83

Grain	Grain sold			
	Locally	To cooperative	To noncooperative	Total
	Percent			
Corn	15	44	41	100
Wheat	2	65	33	100
Soybeans	1	58	41	100
Grain sorghum	30	25	45	100
Oats	52	24	24	100
Barley	8	55	37	100
Rye	7	70	23	100
Flax	([1])	84	16	100
Sunflower	0	51	49	100
Other grains	10	19	71	100

[1]Less than 0.5 percent.

Appendix table 4—Volume of grain shipped by rail by local cooperative associations, by number of cars per shipment and region, 1982-83

Region	Number of cars: Single	2-24	25-49	50-74	77-99	100 plus
	1,000 bushels					
I	7,403	89,699	1,902	20,498	6,040	37,074
II	6,094	74,945	0	0	0	0
III	154,785	377,021	215,825	107,925	61,091	17,380
IV	76,184	228,694	31,769	54,306	11,050	1,927
V	30,730	27,605	21,822	0	0	0
All regions, 1982-83	275,196	797,964	271,318	182,729	78,181	56,381
All regions, 1979-80	759,144	542,783	208,464	138,992	143,572	73,952

Appendix table 5—Regional distribution of volume of grains handled by local cooperatives, by region, 1982-83[1]

Grain	Region: I	II	III	IV	V	Total 1982-83	Total 1979-80
	Percent						
Corn	64	12	49	18	1	40	43
Wheat	9	17	17	45	64	24	25
Soybeans	24	47	19	5	0	17	18
Sorghum	([1])	23	2	31	0	10	5
Oats	2	1	4	1	1	2	3
Barley	1	([1])	6	([1])	34	5	4
Rye	([1])	0	([1])	0	0	([1])	([1])
Flax	0	0	([1])	0	0	([1])	([1])
Sunflower	0	0	3	0	0	2	2
Buckwheat	([1])	0	([1])	0	0	([1])	([1])
Millet	0	0	([1])	([1])	0	([1])	([1])
Mustard	0	0	([1])	0	0	([1])	([1])
Triticale	0	0	([1])	([1])	0	([1])	([1])
Safflower	0	0	0	0	([1])	([1])	([1])
	100	100	100	100	100	100	100

[1]Include grain bank and CCC grains handled.

Appendix table 6—Volume of grain shipped by local cooperative associations by mode of transportation, by region, 1982-83

Region	Mode of transportation: Truck	Rail	Other	Total
	1,000 bushels			
I	328,370	162,616	20,329	511,315
II	91,715	81,039	37,883	210,637
III	1,153,985	934,027	16,176	2,104,188
IV	535,833	403,931	1,887	941,651
V	43,311	80,157	29,709	153,177
All regions	2,153,214	1,661,770	105,984	3,920,968

Appendix B

Tables included in appendix B are reprints, with some slight revisions, of those tables that were printed in ACS Research Report 35 for the marketing year 1979-80. Data from the 1979-80 study associated with those cooperatives that dealt solely in rice, dry beans, peas, and lentils were removed so that the appendix B information and that presented in this report would be comparable.

Appendix table B-1—Membership of local grain handling cooperative associations, by region, 1979-80

Region	Total associations	Grain producers	All others	Total
		Number		
I	291	320,691	353,380	674,071
II	79	114,909	185,797	300,706
III	1,225	657,979	353,851	1,011,830
IV	653	343,495	141,463	484,958
V	79	30,492	8,090	38,582
All regions	2,357	1,467,566	1,042,581	2,510,147

Appendix table B-2—Cooperative associations with licensed grain storage warehouses, by type of license, by region, 1979-80

Region	Cooperative associations with licensed grain storage warehouses	Type of license			
		Federal	State	Federal and State	No license
		Number			
I	216	21	135	60	75
II	43	3	28	12	36
III	1,115	279	680	156	110
IV	628	150	455	23	25
V	65	32	31	2	14
All regions	2,067	485	1,329	253	260

Appendix table B-3—Storage capacity of local cooperatives and average per association and per location, 1979-80

Region	Total storage	Average storage capacity	
		Per association	Per location
		1,000 bushels	
I	196,926	677	355
II	120,789	1,529	497
III	976,429	797	512
IV	732,456	1,122	730
V	176,713	2,236	572
All regions	2,203,313	947	548

Appendix table B-4—Total and average grain volume handled per association, per location, and turnover rate, by region, 1979-80

Region	Grain volume handled			
	Total	Average per association	Average per location	Turnove Ratio
	1,000 bushels			
I	570,257	1,960	1,027	2.9
II	292,302	3,700	1,203	2.4
III	2,369,341	1,934	1,242	2.4
IV	929,896	1,424	926	1.3
V	203,188	2,572	658	1.2
All regions	4,364,984	1,876 (avg.)	1,086 (avg.)	2.0

Appendix table B-5—Specified volumes of grain handled by local cooperative associations, by type of grain, 1979-80

Type	Regular market	Grain bank	CCC
	1,000 bushels		
Corn	1,742,072	83,697	62,745
Wheat	1,053,215	10,963	43,474
Soybeans	754,592	0	3,924
Grain Sorghum	211,636	12,836	1,694
Oats	116,684	7,472	309
Barley	165,651	357	41
Rye	7,269	0	0
Flax	7,478	0	0
Sunflower	76,407	0	0
Other[1]	2,468	0	0
Total	4,137,472	115,325	112,187

Appendix table B-6—Grain bank and CCC grain handled by local cooperative associations, by region, 1979-80

Region	Grain bank grain		CCC grain	
	Volume	Distribution of volume	Volume	Distribution of volume
	Bushels	*Percent*	*Bushels*	*Percent*
I	32,821,164	29	4,967,734	4
II	0	0	190,000	([1])
III	56,748,860	49	73,010,054	65
IV	25,399,263	22	28,832,814	26
V	355,556	([1])	5,186,535	5
All regions	115,324,843	100	112,187,137	100

[1]Less than 0.5 percent.

Appendix table B-7—Volumes of types of grain (including grain bank and CCC grain) handled by local cooperative associations, by region, 1979-80

Grain	Region I	II	III	IV	V	Total
	1,000 bushels					
Corn	357,514	29,587	1,247,421	250,054	3,938	1,888,514
Wheat	65,307	23,236	425,382	432,937	160,790	1,107,652
Soybeans	132,829	235,778	356,785	33,124	0	758,516
Sorghum	92	1,236	19,810	204,821	207	526,166
Oats	11,892	2,288	102,702	6,429	1,154	124,465
Barley	2,575	177	124,381	2,006	36,910	166,049
Rye	14	0	7,248	7	0	7,269
Flax	0	0	7,478	0	0	7,478
Sunflower	0	0	76,361	0	46	76,407
Other	34	0	1,773	518	143	2,468
Total	570,257	292,302	2,369,341	929,896	203,188	4,664,984

Appendix table B-8—Distribution by market outlet of grain sold by local cooperative associations, 1979-80

Grain	Grain sold: Locally	Cooperatives	Noncooperatives	Total
	Percent			
Corn	15	50	35	100
Wheat	2	68	30	100
Soybeans	1	69	30	100
Grain Sorghum	27	49	24	100
Oats	49	33	18	100
Barley	6	63	31	100
Rye	29	44	27	100
Flax	([1])	55	45	100
Sunflower	3	66	31	100
Buckwheat	1	1	98	100
Millet	1	13	86	100
Mustard	0	75	25	100
Rape	0	29	71	100
Triticale	0	41	59	100
Safflower	0	0	100	100
All grains	9	60	31	100

[1]Less than 0.5 percent.

Appendix table B-9—Percentage distribution of the volumes of selected major grains shipped by rail by local cooperative associations, by number of cars per shipment, 1979-80

Number of cars	Grain					
	Corn	Wheat	Soybeans	Grain sorghum	Oats	Barley
	Percent					
Single	9	57	41	35	70	83
2-24	20	32	18	43	24	17
25-49	23	8	11	18	5	([1])
50-74	17	3	6	4	2	([1])
75-99	22	([1])	20	0	([1])	0
Over 100	9	([1])	4	0	0	0

[1]Less than 0.5 percent.

Appendix table B-10—Volume of grain shipped by rail by local cooperatives, by number of cars per shipment, by region 1979-80

Number of cars	Region					
	I	II	III	IV	V	Total
	1,000 bushels					
Single	12,196	145,719	390,678	136,229	74,322	759,144
2-24	72,338	50,916	215,967	180,107	23,455	542,783
25-49	0	96	129,638	74,846	3,884	208,464
50-74	14,991	0	68,577	55,051	373	138,992
75-99	4,219	0	138,581	772	0	143,572
Over 100	27,701	0	46,252	0	0	73,953
Total rail	131,445	196,731	989,694	447,005	102,035	1,866,908

Appendix table B-11—Storage capacity of cooperatives on rail lines not scheduled for abandonment, on rail lines scheduled for abandonment, and not located on a rail line, by region, 1979-80[1]

Region	Not scheduled for abandonment	Scheduled for abandonment	Not on rail line	Total storage capacity[1]
	1,000 bushels			
I	160,834	12,189	23,907	196,929
II	183,057	1,676	18,115	202,847
III	647,024	108,453	166,432	921,909
IV	636,340	55,334	54,213	745,887
V	145,288	15,838	37,439	198,565
All regions	1,772,543	193,488	300,106	2,266,137

[1]Does not include data for Gold Kist, GTA (currently a portion of Harvest States), and MFA.

Appendix table B-12—Regional distribution of the storage capacity of local cooperative associations on rail lines not scheduled for abandonment and on rail lines scheduled for abandonment, by rail line, 1979-80

Railroad	Region I	II	III	IV	V	Storage capacity[1]
	-Percent-					1,000 bu.
Atchison, Topeka, & Santa Fe	0	0	7	93	0	159,864
Baltimore and Ohio	47	0	53	0	0	32,910
Burlington Northern	0	1	36	44	19	358,748
Chicago, and Northwestern	([2])	0	86	14	0	268,166
Conrail	83	0	17	0	0	28,872
Chicago Rock Island, & Pacific	0	42	8	50	0	20,773
Cotton Belt	0	100	0	0	0	60,536
Illinois Central Gulf	0	8	92	0	0	103,125
Milwaukee	0	0	100	0	0	52,621
Missouri Pacific	0	45	7	48	0	155,421
Norfolk & Western	60	0	40	0	0	81,034
Rock Island	0	0	46	54	0	41,546
Toledo, Peoria, & Western	37	0	63	0	0	20,595
Santa Fe	0	0	10	90	0	33,152
Soo Line	0	0	100	0	0	48,342
Southern Pacific	0	15	0	41	44	24,832
Union Pacific	0	0	2	68	30	153,672
Columbus, Greenville & Illinois Central Gulf	66	34	0	0	0	20,500
Other rail lines	21	9	27	31	12	301,320

[1]Does not include data for Gold Kist, GTA (currently a portion of Harvest States), and MFA.

[2]Less than 0.5 percent.

Appendix table B-13—Distribution of responses citing problems facing cooperative associations, total United States and by region, 1979-80

Problem	U.S. total	I	II	III	IV	V
			Percent			
Interest cost	19	23	23	20	18	12
Transportation	14	5	4	18	9	8
Train-related	11	2	4	15	6	6
Markets in general	8	7	10	11	4	8
Finance	6	1	4	4	8	24
Prices	5	2	18	3	10	1
Competition	5	10	4	4	7	0
Regulations	5	8	0	4	5	8
Rate control	4	2	0	3	5	12
Members	3	1	5	4	3	3
Other responses	20	39	28	14	25	18
Total	100	100	100	100	100	100

U.S. Department of Agriculture
Agricultural Cooperative Service

Agricultural Cooperative Service (ACS) provides research, management, and educational assistance to cooperatives to strengthen the economic position of farmers and other rural residents. It works directly with cooperative leaders and Federal and State agencies to improve organization, leadership, and operation of cooperatives and to give guidance to further development.

The agency (1) helps farmers and other rural residents develop cooperatives to obtain supplies and services at lower cost and to get better prices for products they sell; (2) advises rural residents on developing existing resources through cooperative action to enhance rural living; (3) helps cooperatives improve services and operating efficiency; (4) informs members, directors, employees, and the public on how cooperatives work and benefit their members and their communities; and (5) encourages international cooperative programs.

ACS publishes research and educational materials and issues *Farmer Cooperatives* magazine. All programs and activities are conducted on a nondiscriminatory basis, without regard to race, creed, color, sex, or national origin.